

The following listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Presently Amended) A process for separating multibranched paraffins comprised in a hydrocarbon feed comprising hydrocarbons containing 5 to 8 carbon atoms per molecule, wherein said hydrocarbon feed contains linear, monobranched and multibranched paraffins, comprising:

bringing said hydrocarbon feed into contact with at least one zeolitic adsorbent whereby multibranched paraffins are separated from said hydrocarbon feed, and fractionating said hydrocarbon feed into at least two distinct effluents, a first effluent comprising ~~consisting essentially of~~ multibranched paraffins and having a high octane number, and a second effluent which has a low octane number,

said adsorbent having at least two types of channels, principal channels with an opening defined by a ring of 10 oxygen atoms and secondary channels with an opening defined by a ring of at least 12 oxygen atoms, said secondary channels only being accessible to said hydrocarbon feed via said principal channels,

wherein said zeolitic adsorbent is a zeolite with structure type NES, a zeolite with structure type MWW, a NU-85 zeolite, or a NU-86 zeolite.

2. (Previously Presented) A separation process according to claim 1, wherein said adsorbent contains silicon and at least one element T selected from the group formed by aluminium, iron, gallium and boron, the Si/T mole ratio being at least 10.

Claims 3-23 (Cancelled)

24. (Presently Amended) A separation process according to claim 1 for separating multibranched paraffins comprised in a hydrocarbon feed comprising hydrocarbons containing 5 to 8 carbon atoms per molecule, wherein said hydrocarbon feed contains linear, monobranched and multibranched paraffins, comprising:

bringing said hydrocarbon feed into contact with at least one zeolitic adsorbent whereby multibranched paraffins are separated from said hydrocarbon feed, and fractionating said hydrocarbon feed into at least two distinct effluents, a first effluent comprising

multibranched paraffins and having a high octane number, and a second effluent which has a low octane number,

said adsorbent having at least two types of channels, principal channels with an opening defined by a ring of 10 oxygen atoms and secondary channels with an opening defined by a ring of at least 12 oxygen atoms, said secondary channels only being accessible to said hydrocarbon feed via said principal channels,

wherein said zeolitic adsorbent comprises a zeolite with a EUO, NES, or MWW structure, or an NU-85 or NU-86 zeolite, said zeolitic adsorbent being mixed with a zeolite type LTA.

25. (Previously Presented) A separation process according to claim 1, wherein said hydrocarbon feed originates from atmospheric distillation of crude petroleum.

26. (Previously Presented) A separation process according to claim 1, wherein said hydrocarbon feed originates from a reforming unit.

27. (Previously Presented) A separation process according to claim 1, said hydrocarbon feed originates from a conversion unit.

28. (Previously Presented) A separation process according to claim 1, wherein said first effluent rich in multibranched paraffins further contains aromatic and naphthenic compounds.

29. (Previously Presented) A separation process according to claim 1, wherein said fractionating of said hydrocarbon feed produces three distinct effluents, said first effluent which is rich in multibranched paraffins and optionally in aromatic and naphthenic compounds, said second effluent which is rich in linear paraffins, and a third effluent which is rich in monobranched paraffins.

30. (Previously Presented) A process according to claim 1, wherein, before said hydrocarbon feed is brought into contact with said at least one zeolitic adsorbent, at least one light fraction is separated from said hydrocarbon feed by distillation, or, after said hydrocarbon feed is brought into contact with said at least one zeolitic adsorbent, at least one light fraction is separated from an effluent by distillation.

31. (Previously Presented) A process according to claim 1, wherein the feed contains a C5 cut, and before said hydrocarbon feed is brought into contact with said at least one zeolitic adsorbent, said hydrocarbon feed is sent to at least one deisopentaniser and/or at least one depentaniser, or after said hydrocarbon feed is brought into contact with said at least one zeolitic adsorbent, an effluent is sent to at least one deisopentaniser and/or at least one depentaniser.

32. (Previously Presented) A separation process according to claim 30, wherein said light fraction or isopentane and/or pentane and/or a mixture of the two substances acts as an eluant to implement separation.

33. (Previously Presented) A separation process according to claim 1, wherein separation is carried out in the liquid phase at a temperature in the range 50°C to 250°C and at a pressure in the range 0.1 to 7 MPa.

34. (Previously Presented) A separation process according to claim 1, wherein separation is carried out in the gas phase at a temperature in the range 150°C to 450°C and at a pressure in the range 0.01 to 7 MPa.

35. (Presently Amended) A process for separating multibranched paraffins comprised in a hydrocarbon feed comprising hydrocarbons containing 5 to 8 carbon atoms per molecule, wherein said hydrocarbon feed contains linear, monobranched and multibranched paraffins, comprising:

bringing said hydrocarbon feed into contact with at least one zeolitic adsorbent whereby multibranched paraffins ~~paraffins~~ are separated from said hydrocarbon feed,

said adsorbent having at least two types of channels, principal channels with an opening defined by a ring of 10 oxygen atoms and secondary channels with an opening defined by a ring of at least 12 oxygen atoms, said secondary channels only being accessible to said hydrocarbon feed via said principal channels,

wherein said zeolitic adsorbent is selected from zeolites with structure type NES, zeolites with structure type MWW, NU-85 zeolites, and NU-86 zeolites.

36. (Presently Amended) A process for separating multibranched paraffins comprised in a hydrocarbon feed comprising hydrocarbons containing 5 to 8 carbon atoms per molecule, wherein said hydrocarbon feed contains linear, monobranched and multibranched paraffins, comprising:

bringing said hydrocarbon feed into contact with at least one zeolitic adsorbent whereby multibranched ~~paraffins~~ paraffins are separated from said hydrocarbon feed,

said adsorbent having at least two types of channels, principal channels with an opening defined by a ring of 10 oxygen atoms and secondary channels with an opening defined by a ring of at least 12 oxygen atoms, said secondary channels only being accessible to said hydrocarbon feed via said principal channels,

wherein said zeolitic adsorbent comprises a zeolite with a EUO, NES, or MWW structure, or an NU-85 or NU-86 zeolite, said zeolitic adsorbent being mixed with a zeolite type LTA.

37. (Previously Presented) process according to claim 1, wherein said hydrocarbon feed has paraffin content between 30% and 80% by weight.

38. (Previously Presented) A process according to claim 35, wherein said zeolite is a NU-87 zeolite, a SSZ-37 zeolite, a MCM-22 zeolite, a ERB-1 zeolite, a ITQ-1 zeolite, a PSH-3 zeolite, a SSZ-25 zeolite, a NU-85 zeolite or a NU-86 zeolite

39. (Presently Amended) A process for separating multibranched paraffins comprised in a hydrocarbon feed comprising hydrocarbons containing 5 to 8 carbon atoms per molecule, wherein said hydrocarbon feed contains linear, monobranched and multibranched paraffins, comprising:

bringing said hydrocarbon feed into contact with at least one zeolitic adsorbent whereby multibranched ~~paraffins~~ paraffins are separated from said hydrocarbon feed, to produce at least two distinct effluents, a first effluent with a high octane number and a second effluent with a lower octane number, said second effluent with a lower octane number containing linear and monobranched paraffins,

said adsorbent having at least two types of channels, principal channels with an opening defined by a ring of 10 oxygen atoms and secondary channels with an opening defined by a ring of at least 12 oxygen atoms, said secondary channels only being accessible to said hydrocarbon feed via said principal channels, and

recycling said second effluent with a lower octane number to a hydroisomerisation unit, wherein linear and monobranched paraffins with a low octane number are converted to multibranched paraffins with a higher octane number.

40. (Presently Amended) A process for separating multibranched paraffins comprised in a hydrocarbon feed comprising hydrocarbons containing 5 to 8 carbon atoms per molecule, wherein said hydrocarbon feed contains linear, monobranched and multibranched paraffins, comprising:

bringing said hydrocarbon feed into contact with at least one zeolitic adsorbent whereby multibranched paraffins ~~paraffins~~ are separated from said hydrocarbon feed, and fractionating said hydrocarbon feed into at least two distinct effluents, a first effluent ~~which is essentially devoid of linear and monobranched paraffins and~~ having a high octane number, and a second effluent which has a low octane number,

said adsorbent having at least two types of channels, principal channels with an opening defined by a ring of 10 oxygen atoms and secondary channels with an opening defined by a ring of at least 12 oxygen atoms, said secondary channels only being accessible to said hydrocarbon feed via said principal channels,

wherein said adsorbent is an EU-1 zeolite and the ratio  $\alpha$  of the global resistance of 2,2-dimethylpentane to the global resistance of 2-methylpentane at 200 °C is  $\infty$ .